THE INSTITUTE OF PHYSICS

47 BELGRAVE SQUARE, LONDON, S.W.1.

BULLETIN

No. 47 NOVEMBER, 1953

CONTENTS

NOTICES TO MEMBERS	111	THE REGISTER	112
PHYSICAL SOCIETY MEETINGS	111	APPOINTMENTS VACANT	113
GRADUATESHIP EXAMINATION	112		

The Bulletin is not intended for general publication : your copy should not therefore be passed to a library.

NOTICES TO MEMBERS

Nomination for President

Sir John Cockcroft (Fellow), Director of the Atomic Energy Research Establishment, Harwell, Chairman of the Defence Research Policy Committee and Scientific Adviser to the Minister of Defence, has accepted the Board's invitation to be its nominee for President of the Institute to take office in October, 1954.

Static Electrification

The proceedings of the Institute conference on static electrification, held at Bedford College, London, on March 25–27, 1953, will be published as a supplement to the December issue of the *British Journal of Applied Physics*. The supplement will run to about one hundred pages and will contain twenty-four papers and some of the discussion upon them. The subject is of considerable practical importance in many industries because of the danger or nuisance caused by electrification of machinery and materials, and the supplement contains the most comprehensive account so far available of the work that has been done in the field.

Copies of the supplement in paper covers will be sent free of charge to all members and other subscribers who regularly take the *British Journal of Applied Physics*. Additional copies, in stiff board covers, will be available at 25s. each.

Salary Enquiry

A report on the analysis of the returns made in the recent salary enquiry among Fellows, Associates and Graduates of the Institute resident in Great Britain will be presented to the Board at its November meeting. It is expected that the report will be published in the December issue of the *Bulletin*.

PHYSICAL SOCIETY MEETINGS

Members of the Institute are invited to attend any of the following meetings of the Physical Society and its groups.

Date	*Title*	*Lecturer*	*Place*
Nov. 17, 5.30 p.m. Low Temperature Group	Freeze Drying	Dr. R. Kekwick Dr. R. Strickland-Constable	London : Institute of Mechanical Engineers
Nov. 20, 5.00 p.m.	Some Magnetic Measurements — Techniques and Applications (Duddell Medal) and	Prof. W. Sucksmith	London : Science Museum
	Cathode-Ray Tube Storage for Digital Computers (C. V. Boys Prize)	Prof. F. C. Williams	London : Science Museum
Dec. 8, 5.15 p.m. Acoustics Group	Theory of Hearing	Prof. F. J. Pumphrey Mr. I. A. Tumarkin	London : Science Museum
Dec. 10, 2.30 p.m. Optical Group	Papers on the Construction of Optical Elements	Mr. G. E. Manville Mr. M. G. L. Curties Mr. H. W. Yates	London : Imperial College

Unless the graduate carries with him from the university the enquiring mind, the very purpose of a university education has failed; what, above all, is expected of the graduate is not a mind full of facts but an open mind that has learned to handle facts and where to seek them.

"NATURE."

GRADUATESHIP EXAMINATION 1953

The examination was held in London (at the Institute's House) and at colleges in Wigan, Rotherham and Paisley. The practical examination was held at The Polytechnic, Regent Street, London.

Thirty-seven candidates were accepted by the examiners for admission to the examination ; five candidates failed to attend although they had paid the fees and confirmed their intention to sit. Of the 32 candidates who sat, the following seven were successful :—

F. Baynes (Liverpool)
D. W. Berry (London)
J. D. H. Bradley (Keighley)
B. Hogley (Leeds)
R. C. Reid-Jones (Kidderminster)
W. R. Shackcloth (Seascale, Cumberland)
E. J. Smith (Wallasey).

An analysis of the results in terms of the academic status of the candidates is :—

	Pass	*Fail*	*Total*
(a) *Candidates required to take only two papers :*			
Holders of a degree (London General degree at pass standard, Ordinary degrees, etc.)	2	8	10
Holders of a Higher National Certificate in Applied Physics	3	10	13
(b) *Other Candidates*	2	7	9

The results by subjects were :—

	Pass	*Fail*
Physics I (General physics and acoustics) (Prof. F. A. Vick)	7	15
Physics II (Heat and Optics) (Prof. A. M. Tyndall)	6	10
Physics III (Electricity and Magnetism) (Prof. F. A. Vick)	4	7
Mathematics (Dr. J. Topping)—		
Paper I	1	5
Paper II	1	2
Mathematical Physics (Dr. J. Topping)	1	0
More Advanced Physics (Prof. A. M. Tyndall)	4	7
X-rays (Mr. A. E. De Barr)	1	0
Electronics (Mr. A. E. De Barr)	1	4
Temperature Measurement (Mr. A. E. De Barr)	0	1
High Vacuum Technology (Mr. A. E. De Barr)	2	0
Practical examination (Mr. A. E. De Barr and Mr. J. Yarwood)	5	2
General Education (Mr. N. Clarke) ...	1	4

Copies of the papers are available from the Institute at 3s. 0d. a set.

THE REGISTER

ELECTIONS TO MEMBERSHIP

An asterisk (*) indicates transfer from another grade.

Fellow

*Evans, Christmas Cyril, M.Sc., Head of Department of Physics and Mathematics, Glamorgan Technical College, Treforest.

Associates

Adderley, Ernest Edward, B.Sc., Research Officer, C.S.I.R.O., Division of Radiophysics, Chippendale, Australia.

Austin, Ifor Garnant, M.A., Assistant Lecturer, Physics Department, Guy's Hospital Medical School, London.

Birch, Roy Gerald, B.Sc., Group Leader, The General Electric Co. Ltd., Stanmore.

*Carrington, Roy Aldous George, B.Sc., Assistant Research Physicist, Shell Petroleum Co. Ltd., Chester.

*Critchley, Octavius Hunt, M.Sc., Senior Scientific Officer, Propulsion Research Laboratories, Department of Supply, Adelaide, South Australia.

*Dehn, Rudolf, B.Sc., A.R.C.S., Research Physicist, The General Electric Co. Ltd., Research Laboratories, Wembley, Middlesex.

Deller, John, B.Sc., Assistant Lecturer, College of Technology, Rotherham.

Doyle, Hugh Aynsley, B.Sc., Geophysicist, Bureau of Mineral Resources, Melbourne, Australia.

Evans, Paul Bernard Francis, B.Sc., Physicist II, Division of Atomic Energy (Production), Capenhurst, Near Chester.

*Geake, John Edward, M.Sc., Assistant Lecturer, University of Manchester.

Griffiths, Lewis John, B.Sc., Ph.D., Lecturer, Nottingham and District Technical College.

*Harrison, Alan, B.Sc., Senior Development Engineer, K.D.G. Instruments Ltd., Croydon.

*Hart, John, B.Sc., National Research Council, Ottawa, Canada.

*Hartman, Dennis Carl, B.Sc., Assistant Lecturer in Physics, Aston Technical College, Birmingham.

Hogley, Bernard, B.Sc., Technical Officer, Wool Industries Research Association, Leeds.

*Horsfield, Alan Edward, M.A., Research Officer, British Boot Shoe and Allied Trades Research Association, Kettering, Northants.

John, Desmond, B.Sc., Lecturer in charge of Physics, Wednesbury Technical College, Staffordshire.

*Jolliffe, Kenneth Herbert, B.Sc., Ph.D., Research Physicist, British Scientific Instrument Research Association, Chislehurst, Kent.

Landecker, Kurt, Dr.Eng., Graduate Assistant, University of Sydney, Australia.

*Lane, Peter Edward, B.Sc., Senior Scientific Officer, Royal Naval Scientific Service.

*Lawrance, Robert, B.Sc., Scientific Officer, Department of Supply, Commonwealth of Australia.

*Pickering, Mary, B.Sc., Ph.D., Research Assistant, Imperial College of Science and Technology, London.

*Posener, Desmond Walter, M.Sc., Ph.D., Research Officer, C.S.I.R.O., Division of Electrotechnology, Chippendale, Australia.

*Privett, Roy Frank, M.Sc., Scientific Staff, The General Electric Co., Ltd., Stanmore, Middlesex.

*Pyddoke, John, M.A., Divisional Engineer, P.M.G. Research Laboratories, Melbourne, Australia.

*Roberts, Bernard, B.Sc., Physicist, Research Laboratories of Elliott Bros. (London) Ltd., Borehamwood, Hertfordshire.

*Rose, Hyman, B.Sc., Research Student, University of Cambridge.

Smith, Thomas Dawes, B.Sc., Lecturer in Physics, College of Technology, Birmingham.

*Tresise, Hugh Colin, B.Sc., Cavendish Laboratory, Cambridge.

*Walker, George Sanderson, B.Sc., Research Engineer, Ferranti Ltd., Edinburgh.

Graduates

Bernstein, Harold Abraham, M.Sc., Trehame & Davies Ltd., Cardiff.

*Berry, Douglas William, Assistant Development Engineer, Hilger & Watts Ltd., London.

Bradley, John Deryk Hartley, Development Physicist, A. Kershaw & Sons, Ltd., Leeds.

*Burrows, Keith Meredith, B.Sc., Experimental Officer, Defence Research Laboratory, Department of Supply, Melbourne.

Davies, Brian Leonard, B.Sc., Experimental Assistant, Research Laboratories, The General Electric Co. Ltd., Wembley, Middlesex.

Evans, James Edward, B.Sc., Experimental Officer, Isotope Division, Atomic Energy Research Establishment, Harwell, Berks.

Faulkner, Francis, B.Sc., Physicist, British-Thomson Houston Co. Ltd., Rugby.

*Freeman, Eric Lionel, B.Sc., H.M. Forces.

Geiger, Geoffrey Victor, B.Sc., Laboratory Assistant, Research Laboratories, The General Electric Co. Ltd., Wembley, Middlesex.

*Gemmell, William, B.Sc., Research Assistant, Plastic Surgery Unit, Odstock Hospital, Salisbury.

Graham, James, B.Sc., Research Student, University of Western Australia.

Ham, Alan Claude, B.A., Research Student, University of Bristol.

Haneman, Dan, M.Sc., Research Officer, C.S.I.R.O., Division of Radiophysics, Sydney, Australia.

Harlen, Paul, B.Sc., H.M. Forces.

*Holroyd, Phillip, B.Sc., Research Student, Bradford Technical College.

Jones, Henry Keith, B.Sc., Physics Master, St. Michael's School, Bryn, Llanelly, Carms.

Kundu, Sunil Kumar, M.Sc., Research Assistant, Presidency College, Calcutta.

Lee, Patrick Herbert, B.Sc., Lieutenant, Royal Electrical and Mechanical Engineers.

Loizou, Avgoustinos, B.Sc., Lecturer in Physics, Pancypriau Gymnasium, Nicosia, Cyprus.

Loughhead, Ralph Edwin, M.Sc., Research Student, University of Sydney, Australia.

McAllan, John Vian, B.Sc., Technical Officer, C.S.I.R.O., Australia.

Murdoch, Hugh Stewart, M.Sc., Teaching Fellow, University of Sydney, Australia.

*Newell, Frederic William, B.Sc., Physicist, B.S.A. Tools Ltd., Birmingham.

Ritchie, Ronald Charles, B.Sc., Electronic Development, Ericsson Telephones Ltd., Beeston, Notts.

*Rogers, Edward Charles, B.Sc., Graduate Apprentice, British Insulated Callenders Cables Ltd., Prescot.

*Reid-Jones, Rowland Charles, Technical Officer, Steatite and Porcelain Products Ltd., Stourport-on-Severn, Worcs.

Salt, Albert Edward, B.Sc., Assistant Technical Officer, Research Department, Imperial Chemical Industries, Ltd., Birmingham.

Smith, Eric James, Senior Laboratory Assistant, Dunlop Rubber Co. Ltd., Liverpool.

Solntseff, Nicholas, B.Sc., Research Student, University of Sydney, Australia.

Turner, John Stewart, M.Sc., Research Officer, Division of Radiophysics, C.S.I.R.O., Australia.

Walsh, Ethel Irene, B.Sc., Junior Physicist, Metropolitan Vickers Electrical Co. Ltd., Manchester.

Subscribers

Franklin, Arthur Louis, Brookvale, Australia.

Kerr, Gordon Roxburgh, B.Sc., Physicist, Imperial Chemical Industries Ltd., Ayrshire.

Postma, Mathias Jacobus Maria, N.V. Polynorm Ontwikkelings Mij., Holland.

Rosbaud, Paul, Scientific Director, Pergamon Press Ltd., London.

Vass, James Arthur, Structural Test Engineer, English Electric Co. Ltd., Luton.

Students

Boylett, Frank David Arthur, The Polytechnic, Regent Street, London.

Browell, Thomas Peter, Sunderland Technical College.

Spencer, William, Bradford Technical College.

Taylor, Charles Peter, University of Sydney.

Willmott, Alfred John, University of St. Andrews.

APPOINTMENTS VACANT

The inclusion of particulars of a vacancy must not be taken to imply that the Institute necessarily approves of the terms offered or that might be offered. Candidates should satisfy themselves that these are satisfactory, and they may always refer to the Institute for advice.

Graduate in Physics required to assist in research in Space and Water Heating Section. Salary according to age and qualifications. Applications should be made in writing to the Director, **The Electrical Research Association, 5 Wadsworth Road, Greenford, Middlesex.**

Two **Electronic Engineers** or **Physicists** with interest in radio frequency techniques are required for the Nuclear Physics Section. One post will involve the development of radio frequency equipment for a particle accelerator. Experience of or interest in waveguide and line circuits is essential, and sufficient mathematical ability to apply electromagnetic theory to unusual structures would be useful. The other post is similar but would involve a more fundamental investigation of the behaviour of discharges in a radio frequency field. Apply in writing to Personnel Officer, **Associated Electrical Industries Limited,** Research Laboratory, **Aldermaston Court, Aldermaston,** Nr. Reading, **Berks.**

National Institute for Research in Dairying (University of Reading). **Honours graduate,** experienced in use of Infra-red Spectrophotometer, required to assist in programme of research on various substances isolated from dairy products.

The appointment will be in the grade of Scientific Officer, salary £418 to £676 (men) or to £545 (women) according to age, qualifications and experience. Superannuation under F.S.S.U.

Applications, with names of two referees, should be sent to the Secretary, **National Institute for Research in Dairying, Shinfield,** Nr. Reading. Quote Ref. 53/14.

Physicist with a good honours or higher degree required by **Dunlop Research Centre** to carry out fundamental research on textiles. Previous textile experience desirable but not essential. Applications in writing quoting reference J.M.22 and giving details of age, qualifications and experience to Personnel Manager, **Dunlop Rubber Co. Ltd., Fort Dunlop, Birmingham 24.**

Imperial Chemical Industries Ltd., Dyestuffs Division, wish to engage a **physicist** to work in their research department in Manchester on the development of physical techniques and their application to problems arising from the manufacture of colours, polymers, medicinals and a wide range of organic compounds of basic industrial importance. This position, which requires a sound knowledge of physical principles and experimental ability, provides an interesting variety of topics for investigation and offers the possibility of specialisa-

tion at a later date. Excellent laboratory facilities are provided. The position is pensionable and offers good prospect to a suitable applicant, who should be under 30 years of age, possess a good honours degree in physics and preferably have had some research experience. Applicants are invited to write to the Staff Dept., Imperial Chemical Industries Ltd., Dyestuffs Division, **Hexagon House, Blackley, Manchester 9.** Ref. : " Physicist."

West Riding of Yorkshire County Council, Highways and Bridges Department. Applications are invited for the appointment of three First Assistant Laboratory Engineers (Salary range £760 × £25 – £835), who will be required to take charge of one of the Laboratory sub-sections dealing with (*a*) soils mechanics, (*b*) tar, bitumen and coated materials, (*c*) cement and concrete.

Applicants should possess a University Degree in Civil Engineering, Physics or Chemistry, or should be corporate members of a recognized professional Institution.

The appointments are subject to the provisions of the Local Government Superannuation Act, 1937, as amended by the West Riding County Council (General Powers) Act, 1948, and medical examination.

Application forms and list of duties from **County Engineer and Surveyor, County Hall, Wakefield.** Applications required by November 23, 1953.

The British Ceramic Research Association invites applications for permanent appointments from Honours Graduates in Physics who need not have any previous industrial experience. The work of the Association covers a wide range of interests in the ceramic industry and good laboratory facilities are available. The posts to be filled are in the Scientific Officer (£400–£650 per annum) and Senior Scientific Officer (£675–£1025 per annum) grades and are pensionable under F.S.S.U. Applications together with details of age, qualifications and experience should be sent to : The Director of Research, **The British Ceramic Research Association, Queens Road, Penkhull, Stoke-on-Trent, Staffs.**

Ferranti Limited, Manchester, have staff vacancies in connection with transistor development at their new laboratories at Wythenshawe, South Manchester.

(I) **Engineers** and **Physicists** are required for fundamental work on semiconductors and transistors and for work on transistor manufacturing techniques. Qualifications required: 1st or 2nd Class Hons. degree in Physics, Electrical Engineering or Metallurgy ; experience in a relevant field is required for the more senior posts. Salary according to qualifications and experience in the range of £500–£1,500 per annum. Please quote ref. P.D.H. (I)

(II) **Technical Assistants** for experimental work in the fields listed above. Please quote ref. P.D.H. (II). Qualifications required : a degree or Higher National Certificate in Physics, Electrical Engineering or Metallurgy or equivalent qualifications. Salary according to age and experience in the range £400–£600.

The Company has a Staff Pension Scheme. Application forms from Mr. R. J. Hebbert, Staff Manager, Ferranti Ltd., Hollinwood, Lancs.

UNIVERSITY COLLEGE OF NORTH WALES BANGOR

Applications are invited for the post of **Professor of Physics.** The appointment will date from October 1, 1954, and the initial salary will be £1,700 p.a. with superannuation and family allowances.

Fifteen copies of the application should reach the undersigned, from whom further particulars may be obtained, not later than December 15, 1953.

Kenneth Lawrence,
Secretary and Registrar.

ROTHERHAM TECHNICAL COLLEGE

Principal : Mr. G. E. Cooke, M.A.

Applications are invited for the appointment of a **Lecturer in Physics** in the **Department of Electrical Engineering and Physics.**

The Department prepares students for both Ordinary and Higher National Certificates in Applied Physics and General Science and Special Physics Degrees.

Candidates must be graduates and should possess the A.Inst.P., qualification. Adequate industrial experience in high vacuum physics and/or spectroscopy would be desirable as it is intended to develop these subjects in the Department. Facilities are available for research.

Salary will be in accordance with the Burnham Technical Award (1951) namely £940–£25–£1040.

Application forms may be obtained from the undersigned and should be returned by November 24.

R. Bloomer, Director of Education,
Education Offices, Rotherham.

MONMOUTHSHIRE EDUCATION COMMITTEE THE TECHNICAL COLLEGE OF MONMOUTHSHIRE, CRUMLIN

A **Laboratory Technician** to take up duties on January 1, 1954, is required at the above college.

Candidates must have had experience as a Laboratory Assistant or Steward and should have a good practical knowledge of one or more of the following crafts, viz. :—Scientific Glass-Blowing, Carpentry, Photographic Processing, Instrument or Apparatus repair, or Preparation of Metallurgical Specimens.

Candidates should hold a Laboratory Technician's Certificate and an appropriate Ordinary National Certificate.

Salary £400 × £20 × £15 × £15 to £450 per annum.

Forms of application obtainable from the undersigned to be returned not later than October 31, 1953.

County Hall, C. E. Gittins,
Newport, Mon. Director of Education.

The Foot-and-Mouth Disease Research Institute, Pirbright, Surrey. Applications are invited for a post of **Laboratory Technician** on the Senior Assistant (Scientific) Officer grade of £497 per annum rising by seven annual increments to a maximum of £676 per annum. The post offers opportunities to work with the electron microscope and ultracentrifuge and candidates should preferably have had experience in biophysical or physical-chemical laboratories. The post will be superannuable. Housing accommodation can be made available at a rental at present assessed at £40 per annum.

Applications, stating age, qualifications, and details of present and past appointments and accompanied by the names of three persons to whom reference may be made should be addressed to Mr. N. Smith, not later than November 16, 1953.

University College, London (Gower Street, W.C.1), has vacancies for **Technicians** in Nuclear Physics laboratory. Duties involve construction and maintenance of electronic and mechanical apparatus. Commencing wage up to £450, plus London weighting. Application forms from Secretary, quoting PHYSICS/10.

MEMBERS' ADVERTISEMENTS

Author requires part-time assistance. Degree standard in electricity and some teaching experience. Home in Bristol, Reading or West London preferred. Remuneration and hours by arrangement. Box A.V. 48.

M.I.T. Wavelength Tables, 1939. For sale, £4. Box A.V. 49.

Retired Fellow can undertake work in Oxford district ; access to the University Library. Please communicate with Box 50.

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